

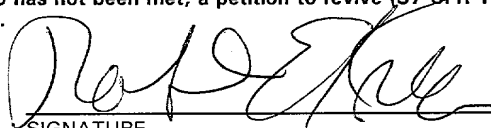
03-04-02

JC10 REG. OFF. 01 MAR 2002

FORM-PTO-1390 (Rev. 9-2001)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER 023833-125
INTERNATIONAL APPLICATION NO. PCT/KR00/00981		U.S. APPLICATION NO. (If known, 37 C.F.R. 1.5) Unsigned 10/070399
INTERNATIONAL FILING DATE August 30, 2000		PRIORITY DATE CLAIMED September 03, 1999
TITLE OF INVENTION PORTABLE TERMINAL SUITABLE FOR ELECTRONIC PUBLICATION SYSTEM		
APPLICANT(S) FOR DO/EO/US Sang-yong KIM		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11 to 20 below concern document(s) or information included: 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: PCT Request, PCT Publication, International Preliminary Examination Report		



21839

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.51) Unassigned		10/070399		INTERNATIONAL APPLICATION NO. PCT/KR00/00981	ATTORNEY'S DOCKET NUMBER 023833-125
21. <input checked="" type="checkbox"/> The following fees are submitted:				CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1,040.00 (960) International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 (970) International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 (958) International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 (956) International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 (962)					
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$ 1,040.00	
Surcharge of \$130.00 (154) for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)). 20 <input type="checkbox"/> 30 <input type="checkbox"/>				\$	
Claims	Number Filed	Number Extra	Rate		
Total Claims	22 - 20 =	2	X\$18.00 (966)	\$ 36.00	
Independent Claims	1 - 3 =	0	X\$84.00 (964)	\$ 0	
Multiple dependent claim(s) (if applicable)			+ \$280.00 (968)	\$	
TOTAL OF ABOVE CALCULATIONS =				\$ 1076.00	
Reduction for 1/2 for filing by small entity, if applicable (see below).				+	\$ 538.00
SUBTOTAL =				\$ 538.00	
Processing fee of \$130.00 (156) for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492(f)). 20 <input type="checkbox"/> 30 <input type="checkbox"/>				\$	
TOTAL NATIONAL FEE =				\$ 538.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 (581) per property				+	\$
TOTAL FEES ENCLOSED =				\$ 538.00	
				Amount to be refunded:	\$
				charged:	\$
a. <input checked="" type="checkbox"/> Small entity status is hereby claimed. b. <input checked="" type="checkbox"/> A check in the amount of \$ <u>538.00</u> to cover the above fees is enclosed. c. <input type="checkbox"/> Please charge my Deposit Account No. <u>02-4800</u> in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>02-4800</u> . A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO: Robert E. Krebs BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404 (650) 622-2300					
				 SIGNATURE	
				Robert E. Krebs NAME	
				25,885 REGISTRATION NUMBER	
				February 28, 2002 DATE	

Patent

Attorney's Docket No. 023833-125**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of)	
)	
Kim)	Group Art Unit: Unassigned
)	
Application No.: Unassigned)	Examiner: Unassigned
)	
Filed: Herewith)	
)	
For: PORTABLE TERMINAL SUITABLE)	
FOR ELECTRONIC PUBLICATION)	
SYSTEM)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the subject application as follows:

IN THE CLAIMS:

Please amend claim 21 as follows:

21. (Amended) The portable terminal of claim 1, further comprising:

a dedicated line connection means which is connected to the electronic publication operating server through a dedicated line in an online mode;

a display control means for displaying user's orders and information;

a display control means for displaying various information on the displaying means;

a payment processing means for settling payments;

an auxiliary storage medium processing means for providing electronic publications, which a user wants to buy, on an auxiliary storage medium on which the content of

10070399-030102

electronic publications can be recorded or erased and which maintains power even when power is off; and

a control processing means for taking charge of controlling above means and processing information together with the electronic publications operating server, wherein an electronic publication online selling device, with which electronic publications can be accessed, for selling electronic publications a user wants to buy, by downloading the electronic publications to the auxiliary storage medium, when a user pays through the payment processing means, is connected to the electronic publication operating server.

PLEASE ADD THE FOLLOWING CLAIMS:

23. The portable terminal of claim 20, further comprising:

a dedicated line connection means which is connected to the electronic publication operating server through a dedicated line in an online mode;

a display control means for displaying user's orders and information;

a display control means for displaying various information on the displaying means;

a payment processing means for settling payments;

an auxiliary storage medium processing means for providing electronic publications, which a user wants to buy, on an auxiliary storage medium on which the content of electronic publications can be recorded or erased and which maintains power even when power is off; and

a control processing means for taking charge of controlling above means and processing information together with the electronic publications operating server, wherein an electronic publication online selling device, with which electronic publications can be accessed, for selling electronic publications a user wants to buy, by downloading the electronic publications to the auxiliary storage medium, when a user pays through the payment processing means, is connected to the electronic publication operating server.

REMARKS

The claims of the subject application have been amended to avoid multiple dependency. Favorable consideration of the subject application is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

Robert E. Krebs
Registration No. 25,885

Post Office Box 1404
Alexandria, Virginia 22313-1404
(650) 622-2300

Date: February 28, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claim 21 has been amended as follows:

21. The portable terminal of ~~any one of~~ claims 1-20, further comprising:
a dedicated line connection means which is connected to the electronic publication operating server through a dedicated line in an online mode;
a display control means for displaying user's orders and information;
a display control means for displaying various information on the displaying means;
a payment processing means for settling payments;
an auxiliary storage medium processing means for providing electronic publications, which a user wants to buy, on an auxiliary storage medium on which the content of electronic publications can be recorded or erased and which maintains power even when power is off; and
a control processing means for taking charge of controlling above means and processing information together with the electronic publications operating server, wherein an electronic publication online selling device, with which electronic publications can be accessed, for selling electronic publications a user wants to buy, by downloading the electronic publications to the auxiliary storage medium, when a user pays through the payment processing means, is connected to the electronic publication operating server.

Claim 23 has been added.

**PORTABLE TERMINAL SUITABLE
FOR ELECTRONIC PUBLICATION SYSTEM**

Technical Field

5 The present invention relates to a portable terminal, and more particularly, to a portable terminal suitable for electronic publication system of which the contents of the electronic publication are encrypted in a predetermined way so that the contents can be read in the predetermined portable terminal.

10 Background Art

 Generally, electronic publications means those publications which are made by digitally coding publications including characters, pictures, photos and graphic data, such as novels, fairy tales, magazines, comic strips, poetry books, educational texts, periodicals, etc. However, the existing electronic
15 publications are not encrypted and thus those can be illegally copied or their contents can be changed. These problems have prevented the penetration of electronic publications which has been lower than that of existing paper-made publications.

20 Disclosure of the Invention

 To solve the above problems, it is an objective of the present invention to provide a portable terminal suitable for electronic publication system in which the contents of the electronic publication are encrypted in a predetermined way so that the contents can be read in the predetermined
25 portable terminal.

 To accomplish the above object of the present invention, there is provided a portable terminal for downloading various data from a server through the Internet, which is suitable for an electronic publication system, in which the server is an electronic publication operating server for storing
30 electronic publications which are obtained by making and editing various

10070399-030102

publications including at least one or more among novels, fairy tales, magazines, newspapers, educational books like textbooks and poetry books, and information including at least one or more among movies, music data, games, maps and animation films, into digital data, and for providing the electronic publications to buyers through the Internet, the portable terminal including a displaying means for displaying any one or more among characters, pictures, photos, graphic data, and image data; a storing means, which is recordable and erasable, for storing various data required for restoring data which the portable terminal downloaded from the electronic publication operating server through the Internet; a personal computer (PC) connecting means for copying the contents stored in the PC to the storing means or copying the contents stored in the storing means to the PC when the PC connecting means is connected to the PC; an encryption processing means for processing encrypted electronic publications so that the contents of the electronic publications can be shown through the corresponding portable terminal; a display processing means for displaying electronic publications or multimedia data, encrypted in the encrypting processing means, on the displaying means; a power means for providing power to the portable terminal; and a central control processing means for controlling and operating entire functions of the portable terminal.

Brief Description of the Drawings

FIG. 1 is a block diagram of an example of an electronic publication system which applies to the present invention;

FIG. 2 is a block diagram of a portable terminal according to the present invention;

FIG. 3 is a block diagram of another example of an electronic publication system which applies to the present invention; and

FIG. 4 is a flowchart to explain downloading an electronic publication to an electronic publication terminal and managing the publication, using the

electronic publication system shown in FIG. 1.

Best mode for carrying out the Invention

Hereinafter, embodiments of the present invention will be described in detail with reference to the attached drawings. The present invention is not restricted to the following embodiments, and many variations are possible within the spirit and scope of the present invention. The embodiments of the present invention are provided in order to more completely explain the present invention to anyone skilled in the art.

FIG. 1 is a block diagram of an electronic publication system which applies to the present invention.

An electronic publication operating server 10 stores electronic publications which are made by digitally made and edited, keeps user IDs and passwords registered by a plurality of buyers, and provides the electronic publications to buyers through the Internet. Here, providing means to provide electronic publications for free or for a price.

Also, the electronic publication operating server 10 downloads the electronic publications to a portable terminal 14 when a user ID and a password are the same as the registered user ID and password, and includes the user ID or password to the downloaded electronic publications in the form an encrypted code.

The electronic publication operating server 10 includes an editing means, a storing means, and an operating means (all not shown in drawings).

The editing means makes, edits, and encrypts at least any one or more electronic publications among novels, magazines, technical books, poetry books, educational texts, periodicals, and newspapers that have characters, pictures, photos, or graphic data; and any one or more multimedia data among movies, music data, games, maps, animation films.

The storing means stores the electronic publications and multimedia data.

The operating means makes a buyer, who wants to buy through Internet's electronic commerce the electronic publications or multimedia data stored in the storing means, access them through the Internet, and introduces, sells, and manages the electronic publications and multimedia data.

5 Here, the process for making and editing the electronic publications in the electronic publication operating server 10 will now be explained.

First, a publication in the form of a manuscript is input and edited, using the editing menu of the electronic publication operating server 10. For inputting the manuscript, the editing means has a scanner input device for
10 inputting the content of the manuscript by a scanner and then converting the content into an electronic publication, and a keyboard input device for directly inputting the content of the manuscript through a keyboard inputting. At this time, a page division code which divides pages when the electronic publication is printed in a normal paper, and a display page division code which divides a
15 page unit that can be displayed on one screen of the portable terminal 14 are inserted in the contents of the publication input by the keyboard input device. At this time, the page code of the normal paper publication can be the same as the display page code of the portable terminal 14, with respect to the available size of the displaying means of the portable terminal 14.

20 When using the page codes, with one inputting, input data can be used both for the normal paper printing and the electronic publication for the portable terminal 14. When the display page, which is a unit that can be displayed on the portable terminal 14 at one time, cannot display a page of the actual paper publication, the page division of the portable terminal 14 can be
25 set to the size of the page division of the actual paper publication, regardless of the actual page division of the portable terminal 14. At this time, when a page of the actual paper publication is displayed on the displaying means of the portable terminal 14, one page of the paper publication becomes a display page of over two-screens. Therefore, when a certain page in the normal paper
30 publication is sought using a page-search function of the portable terminal 14,

the same page is found in the portable terminal.

Next, an encryption code is additionally inserted into the original content of the electronic publication of which editing has been finished.

At this time, the encryption code, includes <the author>, <the publishing right
5 owner>, <the manufacturing date>, <the version number>, <the publication
checking code>, <the proper serial number>, etc. Therefore, the code
prevents possible damages and can be used as an evidence when disputes
happen in the future.

Particularly, in the encrypted electronic publication, header information which is not encrypted is added and header information is divided by codes indicating a header start and a head end. The header information includes <encryption notice> for indicating encryption and <registration code> for indicating registration.

The electronic publication of which encryption is finished is stored in the
15 storing means of the electronic publication operating server 10. The operating
means of the electronic publication operating server 10 makes a buyer, who
wants to buy through Internet's electronic commerce the electronic publication
stored in the storing means, access the electronic publication through the
Internet, and introduces, sells, or manages the electronic publication.

20 The portable terminal 14 is connected to the electronic publication operating server 10 through the Internet. The portable terminal 14 has a proper ID code. The user ID and password corresponding to those registered in the electronic publication operating server are registered, encrypted and stored in the portable terminal 14. The portable terminal 14 downloads the
25 electronic publication, restores to the original publication and then displays it. Also, the portable terminal 14 includes the proper ID code to the downloaded electronic publication, and only when the user ID and password corresponding to the proper ID code are input, displays the downloaded electronic publication. Here, the proper ID code is a unique code given to a terminal, and
30 is made of, for example, <a terminal manufacturer code> and <a proper serial

number of the terminal>.

In the system of FIG. 1, the portable terminal 14 downloads the electronic publication of the electronic publication operating server 10 through a personal computer (PC) 12, which can be connected to the Internet, but the portable terminal 14 can download the electronic publication directly from the electronic publication operating server via wireless data communications.

FIG. 2 is a block diagram of a portable terminal according to the present invention.

A displaying means 20 displays any one or more among characters, pictures, photos, graphic data or image data. Preferably, here, the displaying means 20 is implemented with a touch screen monitor.

A video processing means 22 displays an electronic publication or multimedia data encrypted in an encryption processing means 24, which is to be explained here, on the displaying means 20.

The encryption processing means 24 processes an electronic publication made of encryption codes and makes the content of the electronic publication shown only through the portable terminal 14.

A temporarily storing means 26 temporarily stores data for encryption processing by the encryption processing means 24 or is used as a memory on which a central control processing means 32 temporarily stores data for controlling various functions. It is possible to write and erase data on the memory, but the content of the memory is erased when power is turned off.

An internal storing means 28 stores data, and is a recordable and erasable memory, and the content of the memory is not erased even when power is turned off.

An auxiliary storing means 30 is used when the contents stored in the internal storing means are moved and stored. The contents stored in the auxiliary storing means 30 can be moved to the internal storing means 28. The auxiliary storing means 30 is a recordable and erasable memory, and the content of the memory is not erased even when power is turned off. The

auxiliary storing means 30 can be implemented by, for example, a plurality of smart media cards, PCMCIA memory cards, multimedia memory cards, or hard discs.

A PC connecting means 34 is connected to a PC 12 so that the contents stored in the PC 12 can be copied to the internal storing means 28 or the auxiliary storing means 30 and the contents stored in internal storing means 28 or the auxiliary storing means 30 can be copied to the PC 12. The PC connecting means 34 can use a universal serial bus (USB), an IEEE 1394 standard, Infrared Data Association (IrDA), etc.

An audio processing means 36 includes an audio codec circuit, a decoding circuit, and an audio output circuit (all not shown in drawings).

The audio codec circuit compresses an analogue audio signal input through a microphone (not shown in drawings) to convert it into digital audio data, and then stores it in the auxiliary storing means 30 or the internal storing means 28. The audio code circuit also converts digital audio data, which is compressed and stored in the auxiliary storing means 30 and the internal storing means 28, into the original analogue audio signal. The decoding circuit decodes digital audio data stored in a predetermined compression format. The audio output circuit amplifies the analogue audio signal output from the audio codec circuit so that the audio sound can be heard through an earphone or a speaker.

Meanwhile, the audio processing means 36 can additionally includes a circuit for processing a musical instrument digital interface (MIDI) music data in a MIDI method, and a circuit for decoding music data compressed in an moving picture experts group level 3 (MP3) method. At this time, the central control processing means 32 makes music, which is stored in the internal or auxiliary storing means 28 or 30 in a MIDI method, heard as original music through the audio processing means 34.

The portable terminal 14 can further include an FM radio receiver so that an FM radio broadcasting can be heard through the audio output circuit

of the audio processing means 36.

A power controlling means 38 cuts power supplied to the displaying means when the user does not make any input to the portable terminal 14 for a predetermined time after power is turned on.

- 5 A charging battery means 40 is a battery means which supplies power to the portable terminal 14 in a detachable manner and is rechargeable. The battery 40 can be implemented with a lithium ion battery.

Meanwhile, the portable terminal 14 can include a direct current (DC) power connector (not showing in drawings) for connecting to an external DC power source. At this time, when the power controlling means 38 is connected to an external DC power source through the DC power connector, the charging battery means 40 is automatically charged and power for the portable terminal 14 is also supplied from the external DC power source. When the DC power connector is detached from the external DC power source, the charging
10 battery means 40 automatically provides power for the portable terminal 14.

Also, remaining power of the charging batter means 40 of the portable terminal 14 is checked by the power controlling means 38. When the remaining power is less than or equal to a predetermined level, the remaining power and usable time of the battery is automatically displayed through the
15 displaying means 20 by the central control processing means 32 and an alarm sound is generated through the audio processing means 36.

The portable terminal 14 can further includes a global positional system (GPS) function controlling unit (not shown in drawings) for processing GPS functions. The GPS function controlling unit analyzes information received
20 through wireless data communications to find a current location and displays the current location through the displaying means 20.

Also, the portable terminal 14 can further includes a solar cell sensor (not shown in drawings) so that the power controlling means 38 can use power input from the solar cell sensor together with the charging battery means as
25 auxiliary power for the portable terminal 14.

The central control processing means 32 control and operates all functions of the portable terminal 14. The functions of the central control processing means 32 will now be explained in detail.

The central control processing means 32 makes at least a menu, in which any one of reading, music, voice recording, moving picture, and keyboard can be selected, displayed on the displaying means 20. When reading, music, voice recording, or moving picture is selected, the list of electronic publications, the names of songs in a music data file, the names of a voice recording file, or a moving picture file which are stored in the internal or auxiliary storing means 28 or 30, are displayed on the displaying means correspondingly. Here, the moving picture file can be compressed and stored, for example, in an MPEG method or in other digital data compression method.

When the keyboard in the menu is selected, a keyboard, through which characters and numbers can be input, is displayed on the displaying means 20 so that by selecting the displayed predetermined characters or numbers, data required for controlling various functions by the central processing means 32 can be input.

When any one among the displayed items, including electronic publications, music data files, voice recording files, and moving picture files, is selected, the content of the corresponding file is automatically displayed on the displaying means 20 or processed by the audio processing means 36.

Also, newly input voice is compressed into digital codes through the audio processing means 36 and stores selectively in the internal or auxiliary storing means 28 or 30.

Also, when electronic publications, music data files, and moving picture files are selectively stored in the internal or auxiliary storing means 28 or 30, then the contents are automatically divided so that the stored electronic publications are included in reading, the stored music data files are included in music, the stored voice recording files are included in voice recording, and the stored moving picture files are included in moving picture.

Meanwhile, an external data input processing means (not shown in drawings) for inputting characters and picture on the displaying means 20 with an electronic pen or other input tools can be further included, and the operation of the central control processing means 32 will now be explained.

- 5 When the portable terminal 14 is turned on, a menu for selecting a document function is displayed on the displaying means 20.

When the menu for selecting a document is selected, the list of document files which are currently stored and have been input through the external data input means is displayed.

- 10 When a menu item for inputting a new document is selected, the contents of the document is input on the displaying means 20 with an electronic pen or other inputting tools through the external data input processing means.

- 15 The document input on the displaying means 20 with the electronic pen or other inputting tools is stored and at the same time, the stored document file is automatically included in the menu item for selecting the document function. Also, when the document file is selected through the document function menu item, the content of the document file is automatically displayed on the displaying means 20.

- 20 Also, an image processing means, which has an image input unit (not shown in drawings) in which the portable terminal 14 has a shutter for taking a photo and an image is input through a lens, and an image controlling unit (not shown in drawings) which makes the input image into a digital code so that the image can be shown through the displaying means 20, can be
25 included. At this time, the operation of the central control processing means 32 will now be explained.

- 30 An image storing function menu for storing an image input through the image processing means is displayed on the displaying means 20. When the image storing function menu is selected, the list of files, which are currently stored among the file lists input through the image processing means, is

displayed.

Also, when a menu item for selecting a new image is selected in order to input a new image data, the image processing means is made to input an image through the lens. Here, a predetermined image which is wanted to be
5 stored is compressed in a predetermined method and stored in the internal or auxiliary storing means 28 or 30 when a user, watching through the displaying means 20, pushes the shutter for the predetermined image. Also, the stored file is automatically included in the menu with which an image storing function is selected. When the corresponding image file is selected through the image
10 storing function, compression is automatically released so that the image file is displayed through the displaying means 20.

The portable terminal 14 shown in FIG. 2 can be implemented in the size of a pocketbook or a book that is easy to carry.

Meanwhile, when an image input through the image processing means
15 is compressed and stored, the central control processing means 32 uses JPEG-type still image compression method for storing. Still image data compressed in the JPEG method and stored in the internal storing means 28 or the auxiliary storing means 30 can be decoded after automatic classification. The decoded JPEG digital still image data is restored and
20 displayed on the displaying means 20 through the video processing means of the portable terminal 14.

Also, when the portable terminal 14 is turned on, the central control processing means 32 makes a menu for linking the Internet displayed on the displaying means 20.

25 When the menu for linking the Internet is selected, it is automatically determined whether or not the PC 12 which can be connected to the Internet is correctly linked to the PC connecting means 34. When the PC cannot be linked to the Internet, or the PC is not correctly linked to the PC connecting means 34, such abnormal states are displayed. When the PC which can be
30 connected to the Internet is linked, a web browser for accessing the Internet

is displayed on the displaying means 20.

When the keyboard menu item is selected, characters or numbers for linking to the electronic publication operating server 10 can be input.

With an Internet electronic commerce means, the contents of multimedia and the electronic publications in the electronic publication operating server 10 can be downloaded directly to the internal or auxiliary storing means 28 or 30.

Meanwhile, the portable terminal 14 can further includes a personal wireless communications device connection processing means or an independent wireless data communications means for linking a personal wireless communications device. At this time, the controls of the central control processing means 32 will now be explained.

When the portable terminal 14 is turned on, a menu with which an Internet linking function is selected is displayed on the displaying means. When the menu for selecting the Internet linking function is selected, a web browser for accessing the Internet is automatically displayed on the displaying means.

When the keyboard menu item is selected, characters or numbers for linking the electronic publication operating server 10 can be input.

With an Internet electronic commerce means, the contents of multimedia and the electronic publications in the electronic publication operating server 10 can be downloaded directly to the internal or auxiliary storing means 28 or 30.

Also, the portable terminal 14 can further include an independent wireless data communications means. At this time, the controls of the central control processing means 32 will now be explained.

When the portable terminal 14 is turned on, a menu with which an Internet linking function is selected is displayed on the displaying means. When the menu for selecting the Internet linking function is selected, a web browser for accessing the Internet is automatically displayed on the displaying

means.

When the keyboard menu item is selected, characters or numbers for linking the electronic publication operating server 10 can be input.

With an Internet electronic commerce means, the contents of multimedia and the electronic publications in the electronic publication operating server 10 can be downloaded directly to the internal or auxiliary storing means 28 or 30.

Also, the central control processing means 32 makes the displaying means 20 display a menu for selecting a mail function. By selecting the mail function, characters or pictures input through the external data input means of the portable terminal 14 is sent or, a document file selected after accessing the stored document in the document file is sent.

Also, the portable terminal 14 can further include an MPEG processing means which has an MPEG decoder circuit for decoding data compressed in an MPEG method and an MPEG encoder circuit for compressing in the MPEG method.

The MPEG decoder circuit decodes data which is compressed in the MPEG method and input through the wireless data communications means, and the decoded MPEG audio data is restored to the original audio signal by the audio processing means 36.

The decoded MPEG video data is restored to the original image on the displaying means 20 through the video processing means 22. The MPEG encoder circuit compresses an image, which is input through the image processing means, in the MPEG method, and at the same time compresses an audio signal, which is input through the audio processing means 36, in the MPEG method.

At this time, the central control processing means 32 sends the image data and audio data encoded in the MPEG encoder circuit to a predetermined portable terminal through the wireless data communications means in a real time mode.

Here, the personal wireless communications device or the wireless data communications means can be implemented through PCS, cellular, IMT 2000 method, etc.

Now, the displaying process in the portable terminal 14 after making
5 encrypted electronic publications in the electronic publication operating server
10 will be explained.

First, the original manuscript and additional information such as <the author>, <the publishing right owner>, <the manufacturing date>, <the version number>, <the publication checking code>, etc., are encrypted.

10 In the encrypted electronic publication, header information which is not encrypted is added. Header information is distinguished by codes showing the header start and the header end. An encryption notice code for showing the encryption and a registration code for showing whether or not registration is made are included in the header information.

15 At this time, the operation of the central control processing means 32
for displaying an encrypted or non-encrypted electronic publication will now be
explained.

When the encryption notice code indicates that an electronic publication is not encrypted, the electronic publication is displayed on the displaying means 20 without passing the encryption processing means. When the encryption notice code indicates that an electronic publication is encrypted, the electronic publication is displayed on the displaying means 20 through the encryption processing means.

Meanwhile, the process of displaying the encrypted electronic
25 publication by the central control processing means 32 will now be explained.

When the registration code indicates that an electronic publication is not registered, the proper ID code of the portable terminal 14 in the encryption processing means 24 is additionally added to the encrypted electronic publication to be displayed and then displayed on the displaying means 20. Meanwhile the registration code is changed to indicate that the electronic

publication is registered.

When the registration code indicates that an electronic publication is registered, it is determined whether or not the proper ID code of the portable terminal 14 included in the encrypted electronic publication is the same as the proper ID code of the portable terminal which is to display the encrypted electronic publication. Only when those are the same, the encrypted electronic publication is displayed on the displaying means 20.

FIG. 3 is a block diagram of another electronic publication system which applies to the present invention.

10 The system in FIG. 3 is the same as that in FIG. 1 except that an electronic publication online selling device is connected to the electronic publication operating server 10.

The electronic publication online selling device 6 has a dedicated line connection means, a displaying means, a display control means, a payment processing means, an auxiliary storage medium processing means, and a control processing means (all not shown in drawings).

The dedicated line connection means is connected to the electronic publication operating server 10 through a dedicated line in an online mode. The displaying means displays information and manipulation orders of a user, and can be implemented, for example, by a touch screen monitor. The display control means makes the displaying means display various information.

The payment processing means settles charges for usage with cash or a credit card.

The auxiliary storage medium processing means provides the content of an electronic publication, which a user wants to buy, in an auxiliary storage medium which is recordable and erasable and maintains the content when power is turned off.

The control processing means takes charge for controls of each means above described and processes information together with the electronic publication operating server 10.

Therefore, the electronic publication online selling device can access the electronic publication, and when appropriate money for usage is paid through the payment processing means or when an authorized credit card is input, the electronic publication online selling device downloads the electronic publication, which the user wants to buy, to the auxiliary storage medium and sells it.

Referring to FIG. 3, the process for selling an electronic publication, made in the electronic publication operating server, through the electronic publication online selling device will now be explained.

First, when a user manually selects book selection menu item among menu items displayed on the displaying means, menu items, including author, title, publishing company, new book and keyword input, are displayed so that the user can select any one among the menu items.

Next, when the user selects the author menu item, a space for inputting an author name and a keyboard having characters and number are displayed on the displaying means. Then, the user inputs the name of the wanted author through the keyboard to the space.

When a completion menu item is selected after finishing to input the name, corresponding information is sent from the electronic publication operating server 10 and displayed on the displaying means. Then, the user can the list of electronic publications he wants to buy.

The inputs for other menu items of title, publishing company, new book, and keyword, are done in the same way.

When the electronic publication operating server 10 sends information on the latest input prices and information on the corresponding electronic publication through the dedicated line, the electronic publication online selling device 16 displays the information on the displaying means.

When the user selects a buy menu item, the electronic publication online selling device 16 orders the user to input the proper ID and password. When the input ID and password are registered by other person, or not

registered, the electronic publication operating server 10 orders the user to register new user ID.

When the user ID and password input are correct, the user is request
ed to select any one between cash and creditor card for paying the price of the
5 electronic publications.

At this time, when the user selects cash for payment, the money is
order to input to a money receiver installed in the electronic publication online
selling device 16. When the input money is correct, the electronic publication
operating server 10 is asked to send the content of the electronic publication.
10 Here, when the input money is less than the price of the electronic publication
the user wants to buy, the device waits for a predetermined time until the input
money becomes equal to or greater than the price. When cash is not input
additionally during the predetermined time, the input money is returned to the
user and the device informs that time for inputting money has passed, and
15 then returns to the starting menu.

When the user selects credit card for payment, credit card information
input to the inputting device installed in the electronic publication online selling
device 16 is sent to the electronic publication operating server 10. The
electronic publication operating server 10 confirms this and when the credit
20 card is a valid card, informs the electronic publication online selling device 16
that the card is valid. Then, the electronic publication online selling device 16
requests the electronic publication operating server 10 to send the content of
the electronic publication. However, when the electronic publication operating
server 10 informs that the card is invalid, the electronic publication online
25 selling device 16 returns the credit card and informs that the card is invalid,
and then returns to the starting menu.

Also, the electronic publication operating server 10 includes the user ID
and password input by the user to the electronic publication the user wants to
buy.

30 When the user does not select any one of the payment methods or a

menu item for canceling buying for a predetermined time, the electronic publication online selling device 16 informs the user that time is over, and returns to the starting menu. When the user selects a buy-canceling menu item and selects an information selection menu item in order to get other
5 information, the corresponding information is displayed on the displaying means.

By doing so, when buying an electronic publication by the user is approved, the content of the corresponding electronic publication is downloaded to an auxiliary storage medium, which is recordable and erasable
10 and maintains the content when power is turned off, for the user. When input money is greater than the price of the sold electronic publication after the electronic publication is downloaded to the auxiliary storage medium, the remainder is returned to the user.

Meanwhile, another embodiment of the present invention will now be
15 explained.

This is a system for not downloading an electronic publication directly to the portable terminal, but downloading the electronic publication to the portable terminal after the electronic publication is downloaded to the PC, in the system of FIGS. 1 through 3.

20 First, a buyer or a user must install an application software required for buying an electronic publication, in his PC. Then, using an Internet function linked to the application software, the electronic publication operating server
10 is linked to select an electronic publication wanted to buy. Then, the electronic publication operating server 10 orders the buyer to input the proper
25 buyer ID and password. At this time, when the input buyer ID and password are not registered, or registered by other person, the buyer is asked to register a new buyer ID.

When the buyer ID and password input are correct, the buyer is asked to input the credit card number and the secret number of the card for paying
30 for the electronic publication.

When the card is valid, the buyer ID and password input by the buyer are encrypted and included in the electronic publication the buyer wants to buy.

When the buyer ID and password are wrong or the credit card is not
5 valid, such facts are informed to the buyer.

The electronic publication of which buying process is finished through the above described steps is sent to the electronic publication buying directory of the application software installed in the user PC.

After downloaded to the PC, the electronic publication is again
10 downloaded to the portable terminal.

The electronic publication operating server 10 records the buyer ID and password, and the transaction details of the sold electronic publication. By doing so, even when the buyer loses, damages, or erases the electronic publication, the electronic publication can be sent again after checking the
15 records of the electronic publication operating server 10.

FIG. 4 is a flowchart to explain downloading the electronic publication to an electronic publication terminal and manages it, using the electronic publication system shown in FIG. 1.

The flowchart of FIG. 4 includes a step 400 for registering member
20 information, a step 420 for payment, a step 440 for encryption, a step for downloading an electronic publication, and a step 480 for managing members.

The step 400 for registering member information is a step for registering the proper ID of a buyer (hereinafter, referred to as 'member') and necessary information on members, to the electronic publication operating server. More particularly, a user ID is registered as any one between a proper personal ID
25 and a proper organization ID. When the user ID is registered as a proper personal ID, an electronic publication can be displayed only through the portable terminal of the individual member, and when the user is registered as a proper organization ID, an electronic publication can be displayed through
30 all portable terminals of registered organizational member group.

Here, a user ID is the proper identification (ID) of a member. Also, a proper personal ID is the proper ID of an individual member, and a proper organization ID is the common ID of a organization member. The proper organization ID is an ID which enables an organization or a group having one
 5 or more persons such as a school, a company, or a governmental and municipal offices to commonly use. By doing so, electronic publications can be used commonly so that the efficiency of utilization of electronic publications can be maximized.

Also, by providing such proper ID, following merits are given.

10 When an electronic publication is bought in one or more electronic publication operating servers (that is, when the electronic publication operating servers are managed by a plurality of different companies, or when electronic publications are bought in different operating servers managed by one company), respective electronic publication servers must distinguish a user ID
 15 which is the same as that registered in the other electronic publication operating servers. In this case, it costs too much to connect all the electronic publication operating servers, or it is practically impossible due to different interests of different companies. However, if respective electronic publication operating servers are given their own proper IDs and the proper IDs are
 20 included in the user IDs according to the present invention, such problem can be solved.

Meanwhile, the user ID is not limited to a user ID of 6-8 characters which is usually used. In a broad sense, the concept of various electronic signature authentication for authenticating members can be included. Also,
 25 the user ID is included so that it can be used for encrypting the electronic publication in a predetermined way, and it can be used as a cipher key to watch the encrypted electronic publication.

Therefore, the step 400 for registering member information includes all procedures for authenticating the uniqueness of a member and the member
 30 himself.

The step 420 for payment is a step for paying after selecting a paying method for the electronic publication the member selected. Here, the paying method includes at least one or more among a credit card, a cash card, automatic drawing money from member's bank account after summing bills for a predetermined period, a giro bill, a payment-in-advance means, a direct-payment means, an electronic money means, a money means in a cyber space of an electronic commerce, a money means equivalent to the value obtained by bonus points, and a membership means of a fixed amount in a predetermined period.

- 10 Also, by watching predetermined advertisements after a member accesses the electronic publication operating server through a world wide web (www) means, the price for an electronic publication can be regarded as paid, or by downloading a wanted electronic publication having a predetermined advertisement, the price for the electronic publication can be regarded as paid.
- 15 In these method, the income from advertisements paid by the advertisers is used for royalty payment. Therefore, buyers, electronic publication operating server operators, and advertisers all benefit from the methods.

The step 440 encryption is a step for protecting the electronic publication from copying, unauthorized distribution, unauthorized damaging of the content, by encrypting the electronic publication when the electronic publication bought by a member is displayed on the predetermined portable terminal of the member.

The step 440 for encryption is an essential step for protecting the copyright of the electronic publication made and edited by the electronic publication operating server, and a step for making the electronic publication, which a member is to download, displayed on the portable terminal of the corresponding member or organizational members.

The core of the encryption is in an encryption key for encrypting the electronic publication. The encryption key has no meaning if the key is identically applied to everyone or cannot be distinguished in a predetermined

way. Therefore, the present invention encrypts the electronic publication by including at least the proper code of a portable terminal or the proper code of the user ID. Also, each proper code, or the combination of some proper codes, or that of all proper codes can be used for encryption. For example, a

5 proper authentication means of a user based on an open key is included in the proper content of an electronic publication, which a user wants to buy, for encryption. Also, at least any one or more ID between the proper ID of the terminal or the user ID of the corresponding member can be added to the content of the electronic publication for encryption. Also, at least any one or

10 more among the author code, the sales right owner code, or a proper serial code of the electronic publication can be added to the content of the electronic publication for encryption. Also, all the method can be combined appropriately for encryption. Here, using a watermark technology, the copyright holder, the sales right owner, the proper serial number of the electronic publication, and

15 the title of the book are used as proofs for the original electronic publication in preparation for copying and damaging the corresponding electronic publication.

A finger print recognition system can be used as a means for encryption. That is, after storing the finger print of the buyer to the electronic

20 publication operating server directly through the portable terminal or through a finger print recognition system connected to the PC, the stored finger print can be used for encryption of the electronic publication or as a key for decrypting the cipher.

The step 460 for downloading an electronic publication is a step for

25 downloading an electronic publication, which the buyer bought, to the portable terminal of the buyer after connecting to a www means of the correspondig electronic publication operating server through a predetermined communications means. The predetermined communications means can include a satellite communications means installed in the portable terminal, a

30 synchronous means such as IMT2000, and an asynchronous CDMA wireless

data communications module means.

When the portable terminal is used, the proper ID of the communications means can be used as the proper ID of the terminal.

Here, in order to lower the price of the portable terminal, following
 5 methods can be used. First, after the portable terminal is connected to a personal mobile phone terminal through a device for connecting to a personal mobile phone terminal, the personal mobile phone terminal can be used. Second, a PC connecting means is installed in a portable terminal and then through the PC connecting means, the portable terminal can access a www
 10 means of the electronic publication system. Also, in the step for downloading an electronic publication, a user authentication means can be additionally included in the content of the electronic publication, which the buyer wants to buy, and then encryption is carried out for download.

The step 480 for managing members is a step for storing and managing
 15 information required for managing members, such as information on sold electronic publications and the sold dates. As a method for the step, when a member bought many electronic publications and satisfies predetermined qualification, the member can be given a right to read predetermined electronic publications. Also, the member can be given a portable terminal for free or for
 20 a predetermined period. Also, when the content of an electronic publication which a member bought is damaged by the mistake of the member or erased due to shortage of memory means of the portable terminal, the electronic publication can be again downloaded, referring to information on sold electronic publications, the sold dates, etc.

25 Through these steps, a member who wants to be a writer can make his works be appraised by a plurality of writers and the works of a new writer satisfying predetermined qualification can be distributed to members through the electronic publication operating server so that member can read the works for free or for a cheap price. Also, the new writer can be paid predetermined
 30 copyright royalty without any expenses for publishing, which can contribute

introduction of capable new writers and development of the domestic publishing culture.

Also, in addition to the steps, a step for registering a portable terminal, in which the proper terminal ID, which is the proper classification code of the portable terminal of the member, is registered, can be further included so that the bought electronic publication can be read through only predetermined portable terminal.

Here, the proper terminal ID is the proper terminal number the portable terminal has, and can include information on, at least a proper company code for distinguishing terminal manufacturers, and proper serial code of the terminal by terminal manufacturer. When an electronic publication is downloaded to the portable terminal, the proper terminal ID makes the electronic publication read only through the downloading portable terminal so that the proper terminal ID can be used for copy protection and encryption to protect the copyright or publishing right. However, in some cases, when a portable terminal is manufactured, the portable terminal does not need to have the proper terminal ID. For example, when the electronic publication operating server generates the proper terminal ID and downloads it with the electronic publication to the portable terminal, the proper terminal ID can be registered in a predetermined storage space inside the portable terminal so that the electronic publication can be read through only the corresponding portable terminal. Also, the proper member ID registered in the step 400 for registering member information can be stored in a small-sized and thin storing means for security authentication means, which can authenticate a member, such as a portable multimedia memory card or smart card the member carries, so that the encrypted electronic publication can be read, using the cipher key stored in the security authentication storing means, through the portable terminal or PC having a device which can read the content of the security authentication storing means. At this time, the security authentication storing means includes at least a cipher key unique to the member who can read the encrypted

electronic publication, and the means can include valid period and other information required for management of the electronic publication operating server.

In order to register the proper terminal ID, when the proper terminal ID is marked on the outer surface of the portable terminal or when the proper terminal ID is marked not on the outer surface but inside the terminal, the member can register the proper number of the terminal after accessing the www means of the electronic publication operating server. Also, after the portable terminal is connected to the electronic publication operating server through a communications means, the electronic publication operating server can automatically read the proper terminal ID of the portable terminal and register it. Also, when the proper terminal ID is not inside the portable terminal, the proper terminal ID made unique together with the electronic publication to be downloaded by the electronic publication operating server can be registered in a predetermined storage space inside the portable terminal when the proper terminal ID is downloaded. Also, the proper terminal ID can be registered to the electronic publication operating server when the member buyer the portable terminal so that the member does not need to register the proper terminal ID. In conclusion, the proper terminal ID is decided by each portable terminal manufacturer or the electronic publication operating server companies, and the purpose of the proper terminal ID is to use it in encryption authentication in protecting copyright or preventing copying.

The present invention is not restricted to the above-described embodiments, and many variations are possible within the spirit and scope of the present invention. For example, the portable terminal according to the present invention can include digital music reproducing functions, digital camera functions, mobile communications functions, wireless Internet functions, GPS functions and image communications functions using IMT2000 communications. Therefore, the scope of the present invention is not

According to the present invention, the content of an electronic
5 publication is encrypted so that only a predetermined portable terminal can
read the content. By doing so, following effects can be obtained.

Second, after downloading the electronic publication, only the terminal having proper terminal ID code corresponding to the ID and password can read the content of the electronic publication. That is, even when the ID and password are illegally used, different terminal cannot read the content of the electronic publication.

Fourth, the electronic publications can be provided to the portable terminal through the Internet and other networks at any time at any place at a cheaper price. Therefore, from the seller's viewpoint, there will be no inventory due to incorrect sales volume forecast, while from the author's viewpoint, publications can be provided en masse at a cheaper price so that profitability can be enhanced. Also from the consumer's viewpoint, they can be given electronic publications at a cheaper price.

26

widely distributed.

The present invention can be applied to a portable terminal downloading various electronic publications from a server.

5

What is claimed is:

1. A portable terminal for downloading various data from a server through the Internet, which is suitable for an electronic publication system, wherein the server is an electronic publication operating server for storing electronic publications which are obtained by making and editing various publications including at least one or more among novels, fairy tales, magazines, newspapers, educational books like textbooks and poetry books, and information including at least one or more among movies, music data, games, maps and animation films, into digital data, and for providing the electronic publications to buyers through the Internet, the portable terminal comprising:
 - a displaying means for displaying any one or more among characters, pictures, photos, graphic data, and image data;
 - a storing means, which is recordable and erasable, for storing various data required for restoring data which the portable terminal downloaded from the electronic publication operating server through the Internet;
 - a personal computer (PC) connecting means for copying the contents stored in the PC to the storing means or copying the contents stored in the storing means to the PC when the PC connecting means is connected to the PC;
 - an encryption processing means for processing encrypted electronic publications so that the contents of the electronic publications can be shown through the corresponding portable terminal;
 - a display processing means for displaying electronic publications or multimedia data, encrypted in the encrypting processing means, on the displaying means;
 - a power means for providing power to the portable terminal; and
 - a central control processing means for controlling and operating entire functions of the portable terminal.

2. The portable terminal of claim 1, wherein the electronic publications are downloaded from the electronic publication operating server when a PC which can access the Internet is connected through the PC connecting means.

5

3. The portable terminal of claim 2, wherein in the central control processing means, a means for selecting an Internet connection function is displayed on the displaying means; when the means for selecting the Internet connection function is selected, a web browser for using the Internet is displayed on the displaying means; and an Internet electronic commerce means makes the contents of multimedia data and electronic publications in the electronic publication operating server directly to the storing means.

4. The portable terminal of claim 1, wherein
the storing means comprising:

an internal storing means, which is recordable and erasable, and maintains the stored contents even when power is off, for storing data; and

a detachable auxiliary storing means which is recordable and erasable, and maintains the stored contents even when power is off, wherein the stored contents in the internal storing means can be moved and stored to the detachable auxiliary storing means and the stored contents in the detachable auxiliary storing means can be moved to the internal storing means.

5. The portable terminal of claim 4, wherein the auxiliary storing means includes at least any one among smart media cards, PCMCIA memory cards, multimedia memory cards, and hard disc storage means.

6. The portable terminal of claim 1, further comprising an audio processing means comprising:

an audio codec means for converting an analogue audio signal input

through a microphone to digital audio data and compressing the data to store the storing means, or for converting digital audio data compressed and stored in the storing means, to the original audio signal;

a decoding means for decoding digital audio data stored in a moving
5 picture experts group level 3 (MP3) method; and

an audio output means for amplifying an analogue audio signal output from the audio code means so that it can be heard through an earphone or a speaker.

10 7. The portable terminal of claim 6, wherein the central control processing means makes a function for selecting any one or more among at least reading, music, voice recording, moving picture and still picture, displayed on the displaying means of the portable terminal; when reading, music, voice recording, moving picture and still picture is selected, the list of
15 electronic publications, song titles of music data files, the names of voice recording files, moving picture files and still picture files are displayed respectively; and when any one among electronic publications, music data files, voice recording files, moving picture files, and still picture files that are displayed by selection of respective functions is selected, the content of the
20 corresponding file is automatically displayed on the displaying means or processed through the audio processing means.

8. The portable terminal of claim 6, further comprising:
an FM radio receiver so that the FM radio broadcasting can be heard
25 through the output circuit of the audio processing means.

9. The portable terminal of claim 6, wherein the audio processing means further comprises:
a musical instrument digital interface (MIDI) music processing unit for
30 processing MIDI-type music data, wherein the central control processing

means makes the MIDI music data stored in the storing means played through the MIDI music processing means.

10. The portable terminal of claim 6, further comprising:

5 any one or both of a personal wireless communications device connection processing means for connecting to a portable personal wireless communications means and a wireless communications means installed in the portable terminal;

an MPEG decoder means for decoding data compressed in an MPEG
10 method; and

an MPEG processing means, which has an MPEG encoder means for MPEG-type compression, for processing MPEG-type digital data, wherein the MPEG decoder means decodes data which is compressed in the MPEG method and input through the wireless communications means or the wireless
15 communications device connection processing means; the decoded MPEG audio data is converted into the original analogue audio signal by the audio processing means; the original image of the decoded MPEG video data is displayed on the displaying means by the video processing means; the MPEG encoder means compresses the input image in the MPEG method and at the
20 same time compresses the audio signal input through the audio processing means in the MPEG method; and the central processing means sends in a real time mode image data and audio data, which are encoded in the MPEG encoder means, to a predetermined portable terminal, using the wireless communications means or the wireless communications device connection
25 processing means.

11. The portable terminal of claim 1, wherein the power means provides power to the portable terminal in a detachable manner, and includes a charging battery means which can be recharged.

30

12. The portable terminal of claim 11, further comprising:
a power connecting means for connecting external power source; and
a power control means for controlling power source, wherein when the
power control means is connected to the external power source through the
5 power connecting means, the charging battery means is automatically
charged, and at the same time the external power source provides power for
the portable terminal, and when the power connecting means is detached from
the external power source, the charging battery means automatically provides
power.
- 10 13. The portable terminal of claim 12, wherein the power control
means checks the amount of remaining power in the charging battery means
of the portable terminal, and when the amount is less than a predetermined
level, an alarming sound is generated outwards.
- 15 14. The portable terminal of claim 12, further comprising a solar cell
sensor, wherein the power control means makes the power input through the
solar cell sensor an auxiliary power source for the portable terminal together
with the charging battery means.
- 20 15. The portable terminal of claim 1, further comprising:
an external data input processing means for inputting characters and
pictures on the displaying means with an electronic pen or other input devices.
- 25 16. The portable terminal of claim 1, further comprising:
an image processing means having an image input means for inputting
an image and an image control unit for making the input image a digital code
and displayed on the displaying means, wherein the central control processing
means makes the image processing means input an image and stores
30 predetermined image data, which is wanted to be stored, to the internal or

10

15

20

25

30

comprising:

a dedicated line connection means which is connected to the electronic publication operating server through a dedicated line in an online mode;

a displaying means for displaying user's orders and information;

5 a display control means for displaying various information on the displaying means;

a payment processing means for settling payments;

an auxiliary storage medium processing means for providing electronic publications, which a user wants to buy, on an auxiliary storage medium on
10 which the content of electronic publications can be recorded or erased and which maintains power even when power is off; and

a control processing means for taking charge of controlling above means and processing information together with the electronic publications operating server, wherein an electronic publication online selling device, with
15 which electronic publications can be accessed, for selling electronic publications a user wants to buy, by downloading the electronic publications to the auxiliary storage medium, when a user pays through the payment processing means, is connected to the electronic publication operating server.

20 22. The portable terminal of claim 1, wherein the electronic publication operating server records and stores the details of the transaction of an electronic publication, the user ID and password, when a transaction is made, and when the buyer loses, damages, or erases the bought electronic publications, the records in the electronic publication operating server is
25 checked and the electronic publications are sent again to the portable terminal.

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 March 2001 (15.03.2001)

PCT

(10) International Publication Number
WO 01/18984 A1

(51) International Patent Classification⁷: H04B 1/40

(74) Agent: LEE, Young-Pil; The Cheonghwg Building,
1571-18 Seocho-dong, Seocho-gu, Seoul 137-874 (KR).

(21) International Application Number: PCT/KR00/00981

(22) International Filing Date: 30 August 2000 (30.08.2000)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
1999/37418 3 September 1999 (03.09.1999) KR

(71) Applicant (for all designated States except US): INTER-
CHIPS CO., LTD. [KR/KR]; 509 Hyundai Jeonwon Of-
fice, 1589-7 Seocho-dong, Seocho-gu, Seoul 137-070
(KR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,
NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

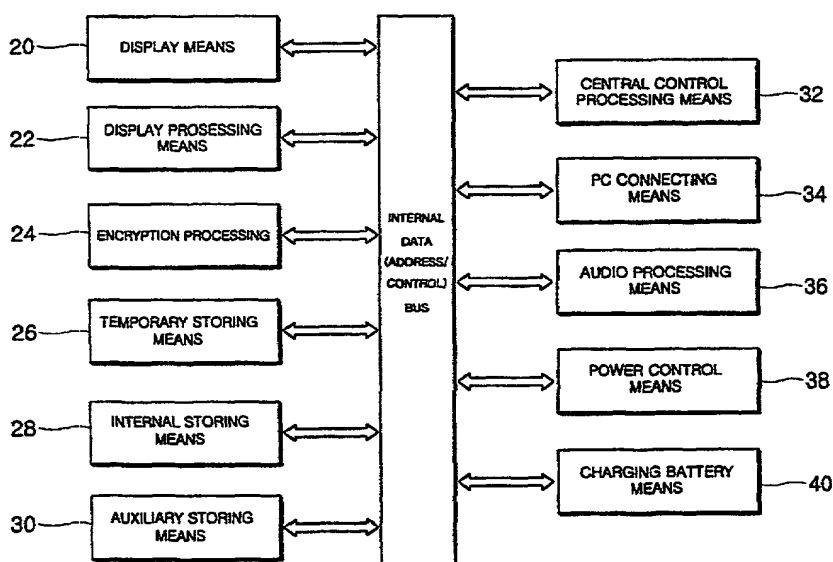
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PORTABLE TERMINAL SUITABLE FOR ELECTRONIC PUBLICATION SYSTEM



(57) Abstract: A portable terminal suitable for an electronic publication system is provided. Electronic publication and multimedia data are downloaded from an electronic publication operating server. The portable terminal has a displaying means; a storing means; a personal computer (PC) connecting means; an encryption processing means; a display processing means; a power means; and a central control processing means. Electronic publications are encrypted in the portable terminal so that the contents of the electronic publications can be shown through the corresponding portable terminal. According to the portable terminal, electronic publications can be protected from infringement of copyright, and can be easily downloaded through the portable terminal, which promotes penetration of electronic publications.

20010315 6602001



WO 01/18984 A1

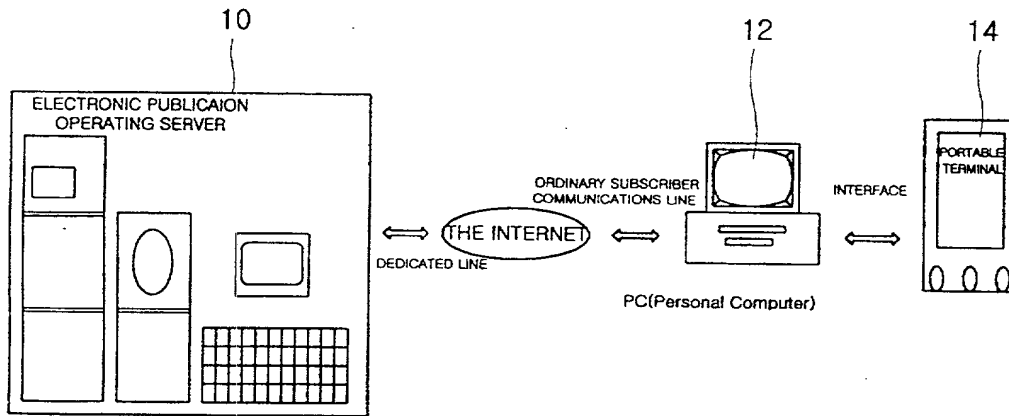
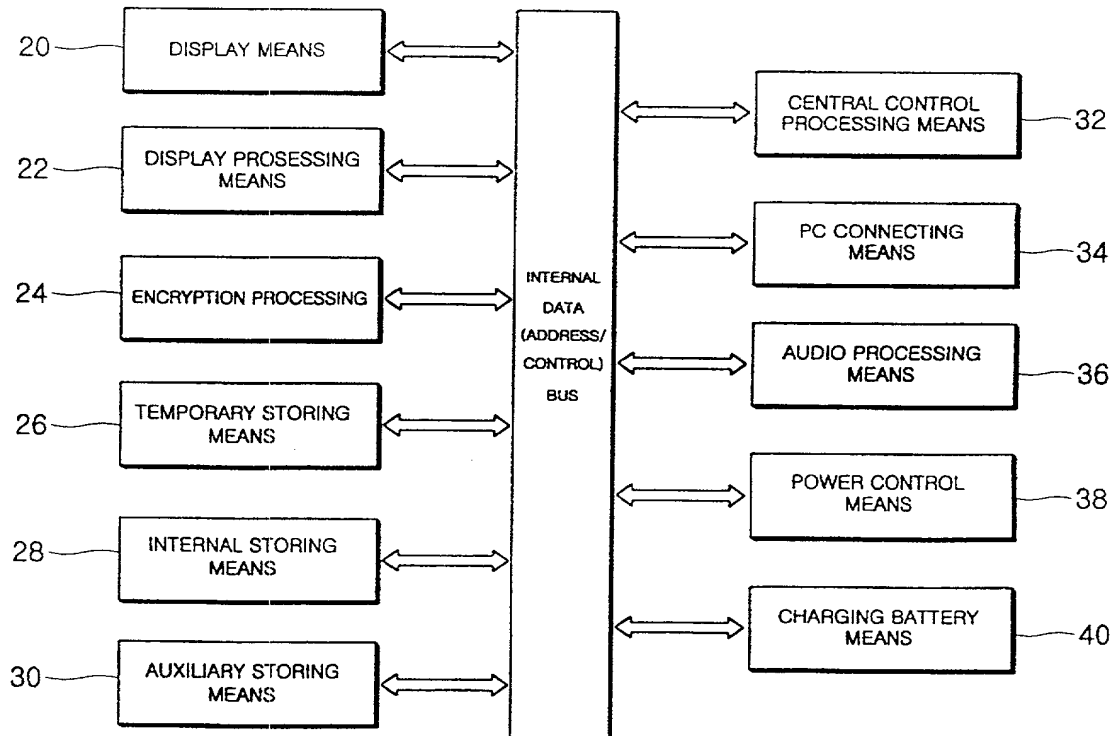
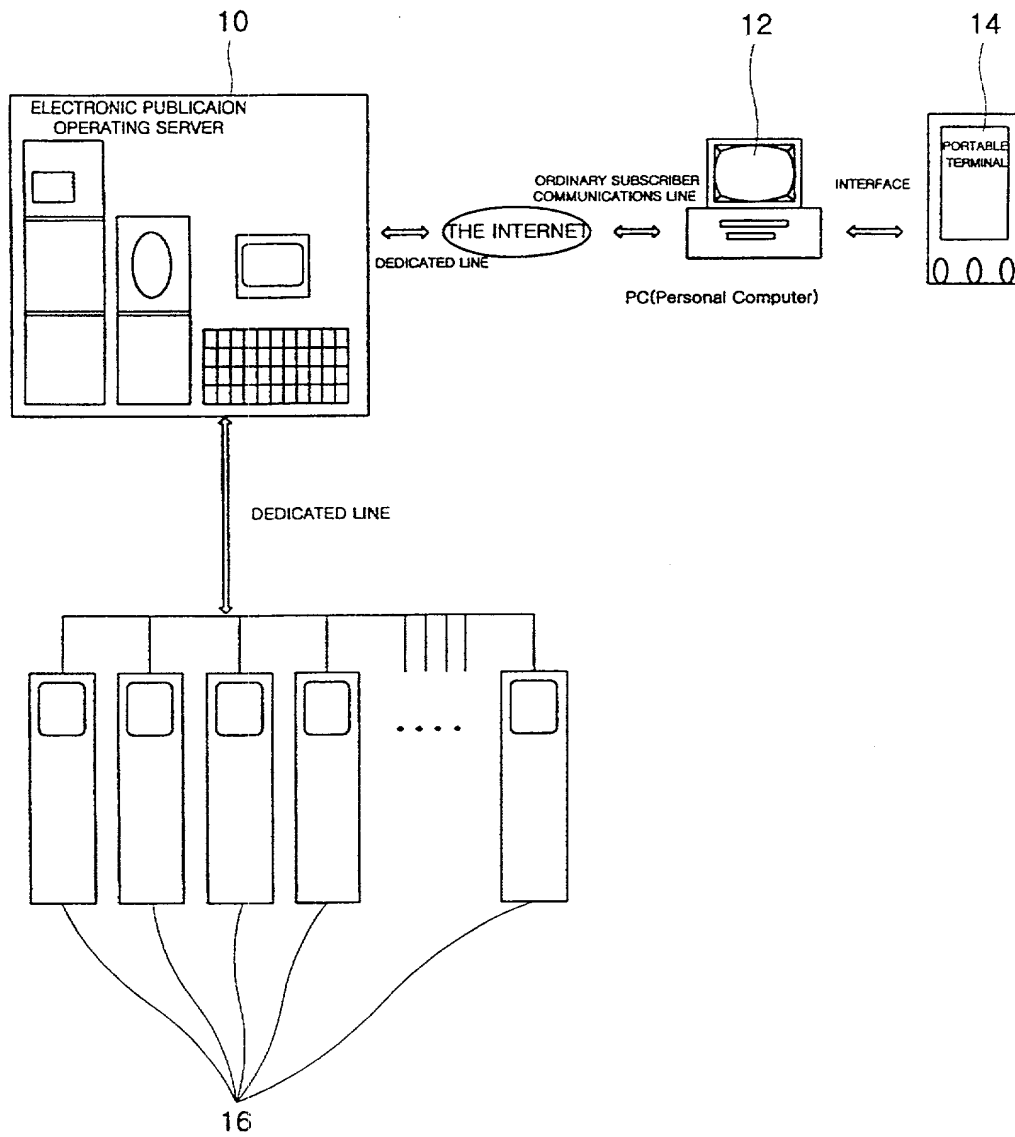
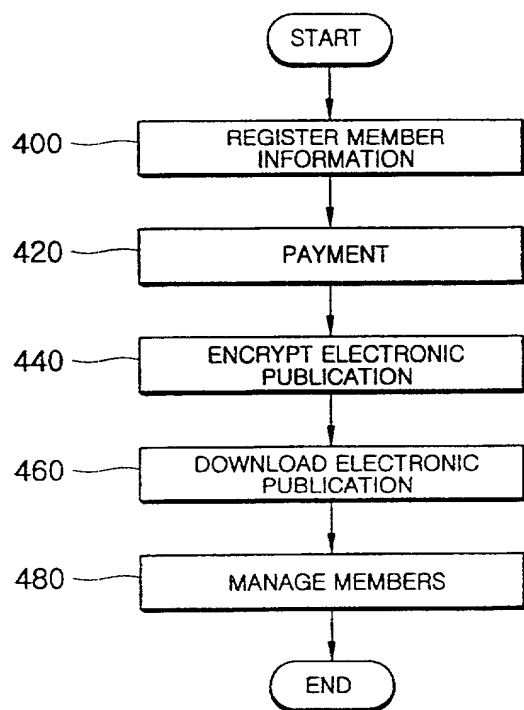
1/3
FIG. 1

FIG. 2



2/3
FIG. 3

3/3
FIG. 4

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(Includes Reference to Provisional and International (PCT) Applications)

Attorney's Docket No.
023833-125

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I BELIEVE I AM THE ORIGINAL, FIRST AND SOLE INVENTOR (IF ONLY ONE NAME IS LISTED BELOW) OR AN ORIGINAL, FIRST AND JOINT INVENTOR (IF PLURAL NAMES ARE LISTED BELOW) OF THE SUBJECT MATTER WHICH IS CLAIMED AND FOR WHICH A PATENT IS SOUGHT ON THE INVENTION ENTITLED:

Portable Terminal Suitable for Electronic Publication System

The specification of which (check only one item below):

- ☐ is attached hereto.
- ☐ was filed as United States Patent Application Number _____ on _____
and was amended on _____ (if applicable).
- ☒ was filed as International (PCT) Application Number PCT/KR00/00981
on 30/August/2000
and was amended on _____ (if applicable).

I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

I ACKNOWLEDGE THE DUTY TO DISCLOSE TO THE U.S. PATENT AND TRADEMARK OFFICE ALL INFORMATION KNOWN TO ME TO BE MATERIAL TO PATENTABILITY AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, Sec. 1.56 (as amended effective March 16, 1992);

I do not know and do not believe the said invention was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by me or my legal representatives or assigns more than six months prior to said application;

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119 (a)-(e) of any foreign application(s) for patent or inventor's certificate or of any International (PCT) Application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT International (PCT) Application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 U.S.C. § 119
KR	99-34801	03/09/1999	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

(APPLICATION NUMBER)

(FILING DATE)

(APPLICATION NUMBER)

(FILING DATE)

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY (CONT'D)
(Includes Reference to Provisional and International (PCT) Applications)

Attorney's Docket
No.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or International (PCT) Application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to the patentability as defined in Title 37, Code of Federal Regulations § 1.56, which became available between the filing date of the prior application(s) and the national or international filing date of this application:

PRIOR U.S. APPLICATIONS OR INTERNATIONAL (PCT) APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. § 120:

U.S. APPLICATIONS		STATUS (check one)		
U.S. APPLICATION NUMBER	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCT APPLICATIONS DESIGNATING THE U.S.				
PCT APPLICATION NO.	PCT FILING DATE	U.S. APPLICATION NUMBERS ASSIGNED (if any)		
PCT/KR00/00981	30/August/2000		V	

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the U.S. Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

William L. Mathis	17,337	Eric H. Weisblatt	30,505	Bruce T. Wieder	33,815
Robert S. Swecker	19,885	James W. Peterson	26,057	Todd R. Walters	34,040
Platon N. Mandros	22,124	Teresa Stanek Rea	30,427	Ronni S. Jillions	31,979
Benton S. Duffett, Jr.	22,030	Robert E. Krebs	25,885	Harold R. Brown III	36,341
Norman H. Stepno	22,716	William C. Rowland	30,888	Allen R. Baum	36,086
Ronald L. Grudziecki	24,970	T. Gene Dillahunty	25,423	Steven M. duBois	35,023
Frederick G. Michaud, Jr.	26,003	Patrick C. Keane	32,858	Brian P. O'Shaughnessy	32,747
Alan E. Kopecki	25,813	B. Jefferson Boggs, Jr.	32,344	Kenneth B. Leffler	36,075
Regis E. Slutter	26,999	William H. Benz	25,952	Fred W. Hathaway	32,236
Samuel C. Miller, III	27,360	Peter K. Skiff	31,917	Wendi L. Weinstein	34,456
Robert G. Mukai	28,531	Richard J. McGrath	29,195	Mary Ann Dillahunty	34,576
George A. Hovanec, Jr.	28,223	Matthew L. Schneider	32,814		
James A. LaBarre	28,632	Michael G. Savage	32,596		
E. Joseph Gess	28,510	Gerald F. Swiss	30,113		
R. Danny Huntington	27,903	Charles F. Wieland III	33,096		



21839

and: _____
Address all correspondence to: Charles F. Wieland III

BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, Virginia 22313-1404



21839

Address all telephone calls to: Charles F. Wieland III _____ at
(703) 836-6620.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(CONT'D)
(Includes Reference to Provisional and International (PCT) Applications)**

Attorney's Docket No.

1-00 FULL NAME OF SOLE OR FIRST INVENTOR Sang-yong Kim		SIGNATURE <i>Sang Yong Kim</i>		DATE 22/02/2002
RESIDENCE (CITY & STATE/COUNTRY) Suwon-city, Kyungki-do, Rep. of Korea <i>KRX</i>		CITIZENSHIP Korean		
POST OFFICE ADDRESS (HOME ADDRESS) 403-1701, Cheongmyeong Maeul, 1048-2, Yeungdong-dong, Paldal-gu, Suwon-city, Kyungki-do, 442-470, Rep. of Korea				
FULL NAME OF SECOND JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF THIRD JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF NINTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				
FULL NAME OF TENTH JOINT INVENTOR, IF ANY		SIGNATURE		DATE
RESIDENCE (CITY & STATE/COUNTRY)		CITIZENSHIP		
POST OFFICE ADDRESS (HOME ADDRESS)				